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**Building panel**

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(71) Applicant(s)  
**CSR Limited**

(72) Inventor(s)  
**David John Carne**

(74) Agent/Attorney  
**SPRUSON and FERGUSON,GPO Box 3898,SYDNEY NSW 2001**

# **BUILDING PANEL**

## **Abstract**

A wall 10 to extend between a floor 11 and ceiling 12. The wall 10 includes a metal sheet member 15 that is corrugated so as to have longitudinally extending ridges 16. The ridges 16 extend from a major surface of the sheet member 15, which major surface is provided with flat portions 17. Secured to the flat portion 17 by means of fasteners 18 or adhesive is a planar sheet member 19 which in its preferred form is a sheet of  
10 plasterboard.

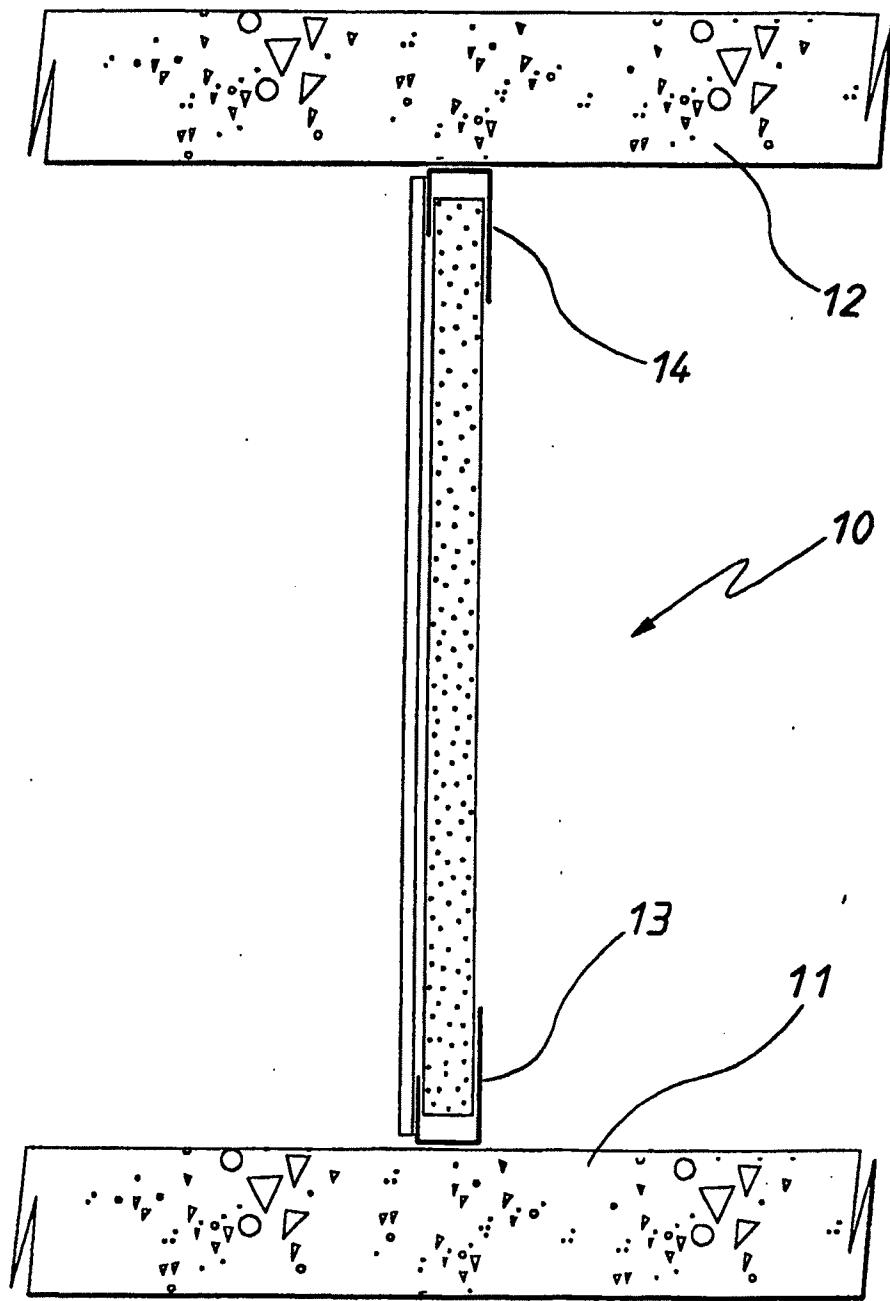


FIG. 1

AUSTRALIA

PATENTS ACT 1990

**COMPLETE SPECIFICATION**

FOR A STANDARD PATENT

**ORIGINAL**

Name and Address  
of Applicant : CSR Limited  
Level 1, 9 Help Street  
Chatswood New South Wales 2067  
Australia

Actual Inventor(s): David John Carne

Address for Service: Spruson & Ferguson  
St Martins Tower, Level 35  
31 Market Street  
Sydney NSW 2000  
(CCN 3710000177)

Invention Title: Building Panel

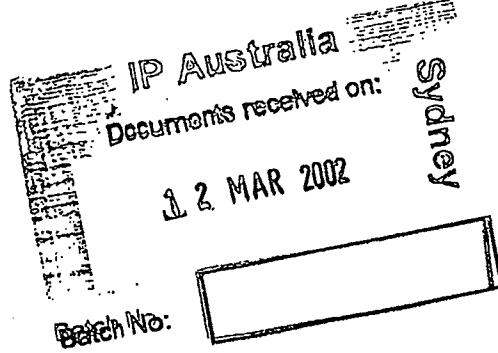
**ASSOCIATED PROVISIONAL APPLICATION DETAILS**

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The following statement is a full description of this invention, including the best method of performing it known to me/us:-



## BUILDING PANEL

### Technical Field

The present invention relates to building panels and more particularly to panels used  
5 to form walls of buildings.

### Background of the Invention

Typically external and more particularly internal walls are supported by a frame  
consisting of a top and bottom plate between which stud members pass. Sheet material  
10 such as plasterboard is then secured to the frame so as to be supported thereby. In  
particular, each plasterboard sheet would be supported by a plurality of the stud members  
as well as the top and bottom plate.

The above typical wall structure has the disadvantage that it is reasonably low  
security. It is relatively easy for an intruder to destroy part of the plasterboard in order to  
15 provide a passage. This is of particular prominence when such walls are used to separate  
adjacent premises or hotel rooms.

### Object of the Invention

It is the object of the present invention to overcome or substantially ameliorate the  
20 above disadvantages.

### Summary of the Invention

There is disclosed herein a building panel for a wall, said panel including;  
a metal sheet having opposite major surfaces and to be generally vertically oriented  
25 so as to have a top and a bottom edge and generally vertically extending side edges, a  
plurality of ridges extending generally vertically and parallel to the side edges but  
transversely spaced, said ridges extending from one of said major surfaces; and  
a generally planar sheet member extending from the other major surface.  
Preferably the metal sheet is corrugated so as to provide said ridges.  
30 Preferably said corrugations have planar portions providing said major surfaces.  
Preferably said planar sheet member is plasterboard.  
Preferably said building panel is incorporated in a wall in which the building panel  
is supported adjacent its periphery only.

### Brief Description of the Drawings

A preferred form of the present invention will now be described by way of example with reference to the accompanying drawings wherein:

- 5      Figure 1 is a schematic section side elevation of an internal building wall;  
Figure 2 is a schematic top plan view of a portion of the wall of Figure 1;  
Figure 3 is a schematic top plan view of a modification of the wall of Figure 1; and  
Figure 4 is a further schematic top plan view of a modification of the wall of Figure  
1.

### Detailed Description of the Preferred Embodiments

10     In the accompanying drawings there is schematically depicted a wall 10 which would be typically an internal dividing wall of a building. The wall 10 extends between a floor 11 and ceiling 12. Attached to the floor 11 is a bottom plate 13 while attached to the ceiling 12 is a top plate 14.

15     The wall 10 includes a metal sheet member 15 that in this instance is corrugated so as to have longitudinally extending ridges 16. The ridges 16 extend from a major surface of the sheet member 15, which major surface is provided with flat portions 17.

Secured to the flat portions 17 by means of fasteners 18 or adhesive is a planar sheet member 19 which in this preferred embodiment is a sheet of plasterboard.

20     The sheet member 15 and plasterboard 19 form a building panel 20 which is supported adjacent its periphery only by means of vertically extending studs adjacent the vertical edges, and by the top and bottom plates 13 and 14. That is there are no stud members located between the vertically extending edges of the building panel 20.

In the embodiment of Figure 3 the wall 10 has two sheet members 15 and two plasterboard sheets 19 and further incorporates an insulation layer 21.

25     In the embodiment of Figure 4 there is no insulation layer 21.

In the above-described preferred embodiments the building panel 20 provides a number of advantages:

- 30     1. increased security in that the metal sheet member 15 inhibits penetration;  
2. increased fire protection;  
3. increased strength; and  
4. elimination of studs intermediate to the edges of the building panel.

Typically the above-mentioned building panel 20 would be delivered to a building site with a plurality of the sheet members 19 secured in a stack and the metal members 15

secured in a separate stack. This ideally minimises the volume of material being transported. The panel 20 would be assembled on site.

**The claims defining the invention are as follows:**

1. A building panel for a wall, said panel including:  
a metal sheet having opposite major surfaces and to be generally vertically oriented  
so as to have a top and a bottom edge and generally vertically extending side edges, a  
plurality of ridges extending generally vertically and parallel to the side edges but  
transversely spaced, said ridges extending from one of said major surfaces; and  
a generally planar sheet member extending from the other major surface.
2. The panel of claim 1 wherein the metal sheet is corrugated so as to provide  
said ridges.
- 10 3. The panel of claim 2 wherein said corrugations have planar portions providing  
said major surfaces.
4. The panel of claims 1, 2 or 3 wherein said planar sheet member is  
plasterboard.
- 15 5. A wall incorporating the building panel of any one of claim 1 to 4 wherein  
said building panel is supported adjacent its periphery only.
6. A building panel substantially as hereinbefore described with reference to the  
accompanying drawings.
7. A wall substantially as hereinbefore described with reference to the  
accompanying drawings.

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**Dated 27 February, 2002**

**CSR Limited**

**Patent Attorneys for the Applicant/Nominated Person**

**SPRUSON & FERGUSON**

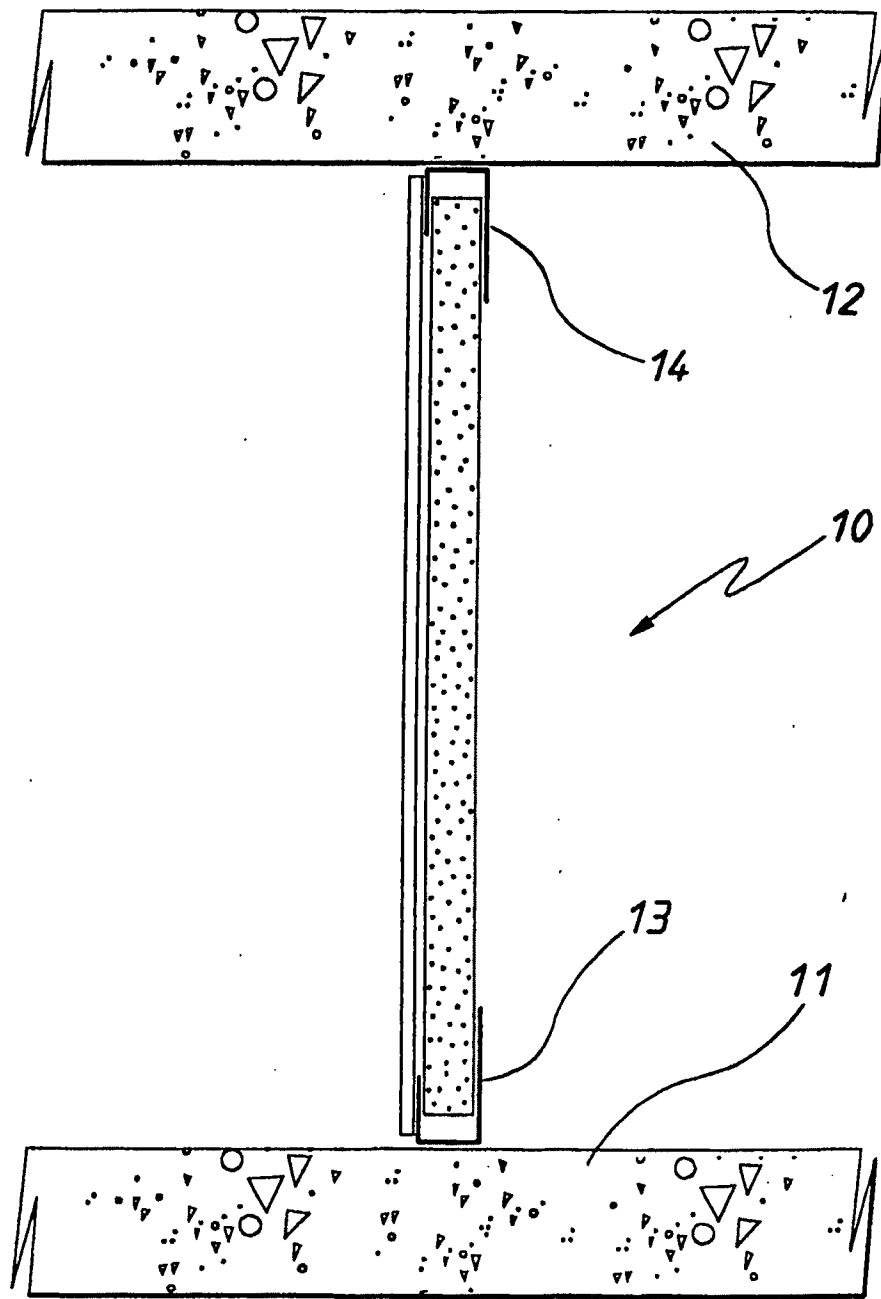


FIG. 1

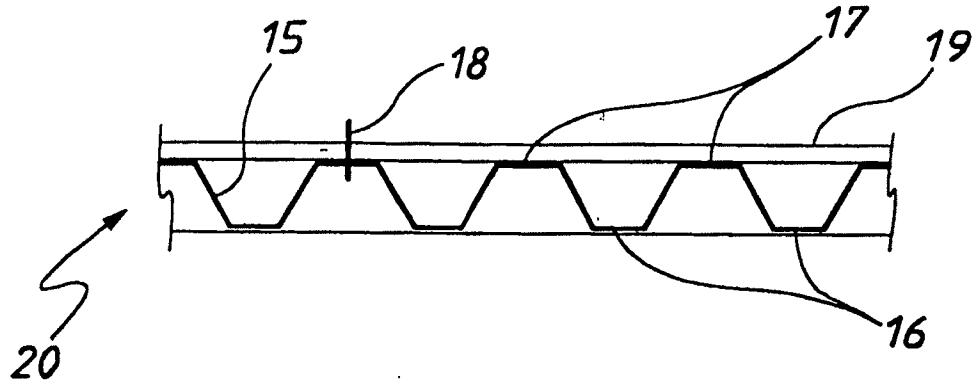


FIG. 2

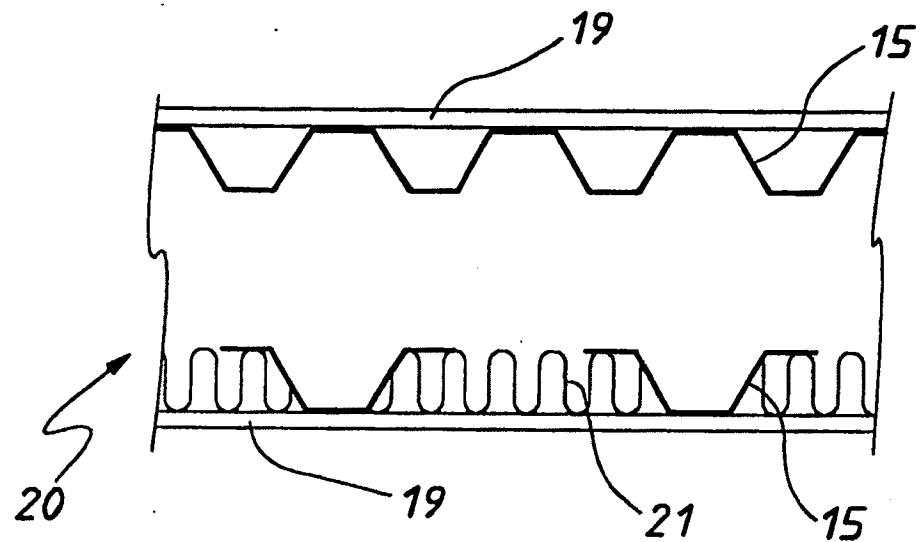


FIG. 3

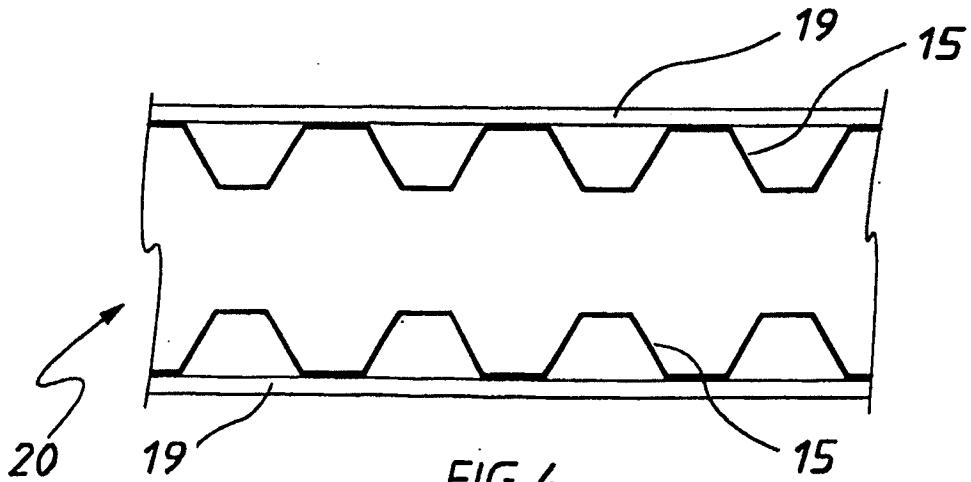


FIG. 4